

Docket No. AUS9-2000-0220-US1

CLAIMS:

What is claimed is:

1. A method for mediating address translation in a
5 logically partitioned data processing system having a set
of logical partitions with an operating system assigned
to each logical partition within the set of logical
partitions, the method comprising:

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10 receiving from an operating system within a logical
partition from the set of logical partitions a request to
access a physical resource;

responsive to a determination that the physical
resource has been allocated to the logical partition,
selectively modifying an address translation table to
15 allow access to the physical resource by the operating
system.

2. The method as recited in claim 1, further
comprising:

20 responsive to a determination that the physical
resource is allocated to a different logical partition in
the set of logical partitions, refraining from modifying
the address translation table.

- 25 3. The method as recited in claim 2, further
comprising:

sending a message to the operating system indicating
that the request is denied.

- 30 4. The method as recited in claim 1, wherein the
address translation table comprises a table of virtual

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addresses with corresponding physical addresses, wherein the virtual addresses are addresses utilized by the operating system and the physical addresses are addresses corresponding to the physical location of resources
5 within the logically partitioned data processing system.

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10 5. The method as recited in claim 4, wherein the physical addresses are allocated to various ones of multiple logical partitions in a disjoint fashion.

6. The method as recited in claim 4, wherein consecutive virtual addresses need not correspond to consecutive physical addresses.

15 7. A computer program product in a computer readable media for use in a logically partitioned data processing system for mediating address translation in a logically partitioned data processing system having a set of logical partitions with an operating system assigned to
20 each logical partition in the set of logical partitions, the computer program product comprising:

first instructions for receiving from an operating system within a logical partition from the set of logical partitions a request to access a physical resource;

25 second instructions, responsive to a determination that the physical resource has been allocated to the logical partition, for selectively modifying an address translation table to allow access to the physical resource by the operating system.

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8. The computer program product as recited in claim 7,

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further comprising:

third instructions, responsive to a determination that the physical resource is allocated to a different logical partition in the set of logical partitions, for
5 refraining from modifying the address translation table.

9. The computer program product as recited in claim 8, further comprising:

fourth instructions for sending a message to the
10 operating system indicating that the request is denied.

10. The computer program product as recited in claim 7, wherein the address translation table comprises a table of virtual addresses with corresponding physical
15 addresses, wherein the virtual addresses are addresses utilized by the operating system and the physical addresses are addresses corresponding to the physical location of resources within the logically partitioned data processing system.

20 11. The computer program product as recited in claim 10, wherein the physical addresses are allocated to various ones of multiple logical partitions in a disjoint fashion.

25 12. The computer program product as recited in claim 10, wherein consecutive virtual addresses need not correspond to consecutive physical addresses.

30 13. A system for use in a logically partitioned data processing system for mediating address translation in a

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logically partitioned data processing system having a set of logical partitions with an operating system assigned to each logical partition in the set of logical partitions, the system comprising:

5 first means for receiving from an operating system within a logical partition from the set of logical partitions a request to access a physical resource;

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10 second means, responsive to a determination that the physical resource has been allocated to the logical partition, for selectively modifying an address translation table to allow access to the physical resource by the operating system.

14. The system as recited in claim 13, further
15 comprising:

third means, responsive to a determination that the physical resource is allocated to a different logical partition in the set of logical partitions, for refraining from modifying the address translation table.

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15. The system as recited in claim 14, further comprising:

fourth means for sending a message to the operating system indicating that the request is denied.

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16. The system as recited in claim 13, wherein the address translation table comprises a table of virtual addresses with corresponding physical addresses, wherein the virtual addresses are addresses utilized by the
30 operating system and the physical addresses are addresses corresponding to the physical location of resources

[illegible]

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a plurality of physical resources, each assigned to one of the plurality of logical partitions; and

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if it is determined that the requested resource is

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